



Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources
Alan W. Klimek, P.E., Director
Division of Water Quality

April 28, 2006

need 12/8/08

Ms. Jane D. Wastewater, PE
Director of Public Utilities
Town of Typicalville WWTP
PO Box 101
Typicalville, NC 27666

Subject: Permit No. WQ0001234
Town of Typicalville
Town of Typicalville Residuals Land Application Program
Land Application of Residuals Solids (503)
Typical County

Dear Ms. Wastewater:

In accordance with a written request made on the Town of Typicalville's behalf by Synagro, Inc. that was received by the Division of Water Quality on December 29, 2004, and additional information that was received on May 11, 2005, we are forwarding herewith a modified and renewed Permit No. WQ0001234, dated April 28, 2006, to the Town of Typicalville for the subject residuals land application program.

This permit shall be effective from the date of issuance until March 31, 2011; shall void Permit No. WQ0001234, issued on April 22, 2002; and shall be subject to the conditions and limitations as specified therein. Make note of this permit's expiration date and the fact that a permit renewal application is due to the Division of Water Quality (Division) no later than six months prior to that date (i.e., see Condition VI. 7.), as the Division does not send reminders to apply for permit renewal.

This permit is being issued to renew and modify the program by removing several hundred acres from the program and performing other changes associated with improving the accuracy of site maps. As always, remember to **take the time to review this permit thoroughly**, as some of the conditions contained therein may have been added, changed, or deleted since the last issuance. Pay particular attention to the monitoring requirements in this permit. Failure to establish an adequate system for collecting and maintaining the required operational information will result in future compliance problems.

If any parts, requirements, and/or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within 30 days following receipt of this permit. This request shall be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings at 6714 Mail Service Center, Raleigh, North Carolina 27699-6714. Unless such demands are made, this permit shall be final and binding.

One
North Carolina
Naturally

Aquifer Protection Section
Internet: <http://h2o.enr.state.nc.us>

1636 Mail Service Center
2728 Capital Boulevard

Raleigh, NC 27699-1636
Raleigh, NC 27604

Phone (919) 733-3221
Fax (919) 715-0588
Fax (919) 715-6048

Customer Service
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Ms. Jane Wastewater
April 28, 2006
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If you need any additional information concerning this matter, please contact Mr. David Goodrich by telephone at (919) 715-6162, or via e-mail at david.goodrich@ncmail.net.

Sincerely,


for Alan W. Klimek, P.E.

Cc: Synagro, Inc.
Typical County Health Department
Regional Office – Aquifer Protection Unit
Technical Assistance and Certification Unit
APS Central Files
APS Files
LAU Residuals Program Coordinator

NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
RALEIGH
LAND APPLICATION OF RESIDUAL SOLIDS (503) PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO

Town of Typicalville
Typical County

FOR THE

continued operation of a residuals land application program for the Town of Typicalville and consisting of the land application of residuals generated by the residuals source-generating facilities listed in the most recently-certified Attachment A to the land application sites listed in the most recently-certified Attachment B with no discharge of wastes to surface waters, pursuant to the permit modification and renewal application package received on December 29, 2004, as well as the additional information received on May 11, 2005, and in conformity with the project plan, specifications, and other supporting data subsequently filed and approved by the Department of Environment and Natural Resources and considered a part of this permit.

This permit shall be effective from the date of issuance until March 31, 2011; shall void Permit No. WQ0001234, issued on April 22, 2002; and shall be subject to the following specified conditions and limitations:

I. PERFORMANCE STANDARDS

1. The residuals land application program shall be effectively maintained and operated as a non-discharge system to prevent the discharge of any wastes resulting from the operation of this program.
2. This permit shall become voidable if the soils of the land application sites fail to assimilate the residuals adequately and may be rescinded unless the land application sites are maintained and operated in a manner that will protect the assigned water quality standards of the surface waters and groundwater.
3. The issuance of this permit shall not relieve the Permittee of the responsibility for damages to surface waters or groundwater resulting from the operation of this residuals land application program.

4. In the event that the residuals land application program is not operated satisfactorily, including the creation of nuisance conditions, the Permittee shall cease land applying residuals to the site, contact the Aquifer Protection Section of the appropriate Division of Water Quality's (Division) regional office, and take any immediate corrective actions as may be required by the Division.
5. No residuals other than those generated by the residuals source-generating facilities listed in the most recently-certified Attachment A of this permit shall be approved for land application in accordance with this permit.
6. The pollutant concentrations in any residuals that are land applied to any land application site shall not exceed the following **Ceiling Concentrations** (i.e., dry weight basis):

Parameter	Ceiling Concentration (milligrams per kilogram)
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

7. When residuals are land applied under the conditions of this permit, the Class A pathogen requirements and site restrictions in 40 CFR Part 503.32(a) or the Class B pathogen requirements and site restrictions in 40 CFR Part 503.32(b), and one of vector attraction reduction requirements in 40 CFR Part 503.33 shall be met. Additionally, an evaluation shall be performed that demonstrates the residuals' ability to comply with this requirement. Upon request, a copy of this evaluation, including all test results and calculations, shall be submitted. Only residuals that are generated by the residuals source-generating facilities that are identified as being exempt from this condition in the most recently-certified Attachment A shall not be required to comply with the specified pathogen reduction and vector attraction reduction requirements.
8. Only the land application sites listed in the most recently-certified Attachment B of this permit are approved for residuals land application.
9. This permit shall become voidable unless the agreements between the Permittee and the landowners and lessees or operators of any land application sites listed in the most recently-certified Attachment B of this permit not owned by the Permittee are in full force and effect. These agreements shall be considered expired concurrent with the expiration date of the permit and shall be renewed at the same time the permit is renewed.
10. The appropriate local governmental official (i.e., county manager, city manager, etc.) shall be notified at least 24 hours prior to the initial residuals land application event to any new land application site. In addition, the appropriate county manager's office shall be notified prior to the initial residuals land application event on any new site so that they will be aware that residuals land application activities have commenced on the site.

- h. 10 feet from upslope interceptor drains and surface water diversions for both surface and subsurface application methods; and
- i. 25 feet from downslope interceptor drains, surface water diversions, groundwater drainage systems, and surface drainage ditches for both surface and subsurface application methods.

Some of the buffers specified above may not have been included in previous permits for this residuals land application program. However, any land application sites that are listed in the most recently-certified Attachment B of this permit, but were approved with different buffers shall be reflagged to comply with these buffers.

6. Maximum slope for land application of residuals shall be 10 percent for surface application methods and 18 percent for subsurface application methods.
7. Specific residuals land application area boundaries shall be clearly marked on each land application site prior to and during a residuals land application event.
8. The metal loading rates on any land application site shall not exceed the following **Cumulative Pollutant Loading Rates (CPLRs)**:

Parameter	CPLR (kilograms per hectare)	CPLR (pounds per acre)
Arsenic	41	36
Cadmium	39	34
Copper	1,500	1,338
Lead	300	267
Mercury	17	15
Molybdenum	n/a	n/a
Nickel	420	374
Selenium	100	89
Zinc	2,800	2,498

9. An acceptable pH shall be maintained in the soil, residuals, and lime mixture, greater than 6.0, on all land application sites onto which residuals are land applied to ensure optimum yield for the crops specified in Condition II. 13. The agronomist shall provide information on the pH best suited for the specified crop and the soil type.
10. Should any of the residuals generated by the residuals source-generating facilities listed in the most recently-certified Attachment A of this permit contain a high salt content (i.e., high sodium adsorption ratio (SAR) of five or higher), the exchangeable sodium percentage (ESP) or other method as approved by the Division, using the results from the annual soils analysis as required by this permit, shall be monitored on all of the land application sites. The local Cooperative Extension Office, the Department of Agriculture and Consumer Services, the Natural Resource Conservation Service, a North Carolina-licensed Soil Scientist, or other agronomist shall review the results and make recommendations regarding soil amendments (e.g., gypsum, etc.) or other ameliorative mechanism for maintaining the integrity of the site in terms of suitability for land application of residuals and maintaining conditions conducive to crop growth. The Permittee shall implement such recommendations accordingly and shall maintain written records of each monitoring event that includes details of the sites covered and rate of soil amendment application.

8. This permit shall not be automatically transferable. In the event that there is a desire for the residuals land application program to change ownership or to change the name of the Permittee, a formal permit request shall be submitted to the Division documentation from the parties involved and other supporting materials as may be appropriate. The approval of this request shall be considered on its merits and may or may not be approved.

Permit issued this the 28th day of April, 2006.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



for Alan W. Klimek, P.E., Director
Division of Water Quality
By Authority of the Environmental Management Commission

Permit Number WQ0001234

Attachment A- Approved Residual Source-Generating Facilities

Permit Number: WQ0001234

Town of Typicalville

Town of Typicalville Residuals Land Application Program

Owner	Facility Name	County	Permit Number	Issued By	Is 503?	Maximum Dry Tons Per Year	Monitoring Frequency for Condition III. 2.	Frequency for Condition III. 3. and Condition III.4.	Approved Mineralization Rate
Town of Typicalville	Town of Typicalville WWTP	Typical	WQ0001234	DWQ	503	3612.0	Annually	Every 60 Days	0.3
Total									

If Attachment A of Sludge Permit shows sources in addition to WWTP for this HWA, acres in Attachment B must be adjusted accordingly.
Discuss in HWA Narrative.

Permit Number WQ0001234
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Page 1 of 1

Certification Date April 28, 2006

Attachment B- Approved Land Application Sites

Permit Number: WQ0001234

Town of Typicahville
Town of Typicahville Residuals Land Application Program

Site/Field ID	Landowner	Lessee/Operator	County	Latitude	Longitude	Net Acreage	Applicable Restriction in Condition IV. 1.
NC-RC-100-02	Howard, Barry	Typical	36°25'45"	79°49'34"	12.2	GW-A	
NC-RC-100-03	Howard, Barry	Typical	36°25'42"	79°49'24"	13.0	GW-A	
NC-RC-100-04	Howard, Barry	Typical	36°25'55"	79°49'25"	5.1	GW-A	
NC-RC-100-05	Howard, Barry	Typical	36°25'58"	79°49'33"	3.5	GW-A	
NC-RC-100-06	Howard, Barry	Typical	36°25'54"	79°49'37"	4.2	GW-A	
NC-RC-123-01	Bryant, James	Typical	36°16'18"	79°45'58"	16.1	GW-A	
NC-RC-123-02	Bryant, James	Typical	36°16'16"	79°46'04"	15.6	GW-A	
NC-RC-123-03	Bryant, James	Typical	36°16'13"	79°46'11"	3.3	GW-A	
NC-RC-123-04	Bryant, James	Typical	36°15'54"	79°46'60"	12.7	GW-A	
NC-RC-123-05	Bryant, James	Typical	36°16'35"	79°46'12"	5.3	GW-A	
Total For County		Typical			1091.0		
Total					1164.9		

^a These land application sites shall receive residuals at a rate that is 50 percent of the agronomic rate land applied to other sites with similar cover crops.

^b A 25-foot buffer shall be maintained from the "slope breaks" in the woods on this land application site during residuals land application events.

^c 25-foot buffers shall be maintained from the edge of the woods next to the pond as well as from all eroded areas on this land application site during residuals land application events.

**If Attachment A of Sludge Permit shows sources in addition to WWTP for this HWA, acres in Attachment B must be adjusted accordingly.
Discuss in HWA Narrative.**

events (i.e., see
, see approved
nd application sites

^h These fields are used for turf production and should not be harvested for at least a one-year period from the last application event.

2007 ANNUAL OPERATIONS SUMMARY - LAND APPLICATION IN NC

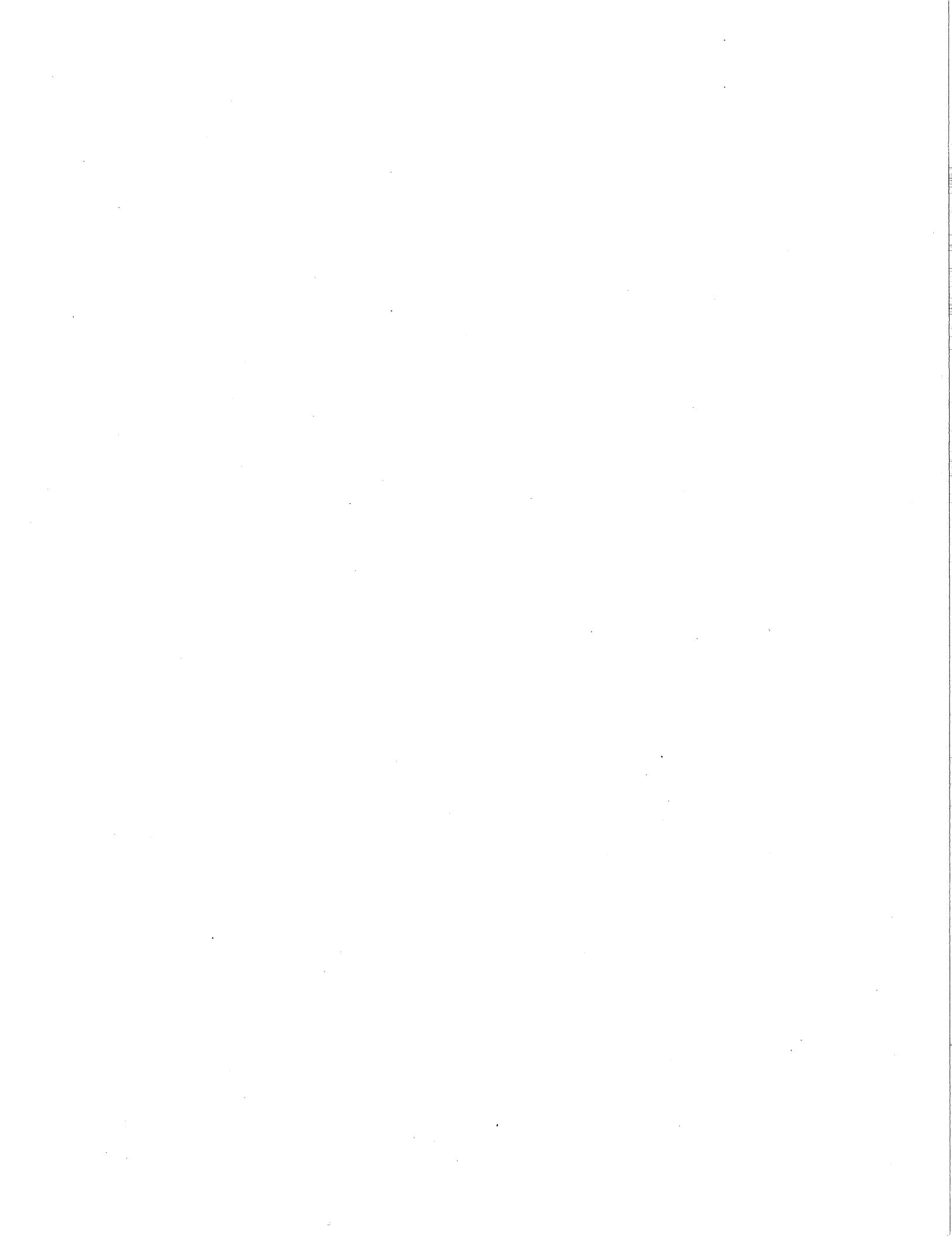
TYPICALVILLE, NC

TYPICALVILLE, NC WWTP LAGOON #1

<u>MONTH/YEAR</u>	<u>AMOUNT</u>	<u>UNIT</u>	<u>DRY TONS</u>	<u>UNIT</u>	<u>DRY METRIC TONS</u>
February 2007	2,814,500.00	G	551.62	D	500.30
March 2007	1,410,500.00	G	161.74	D	146.71
April 2007	604,500.00	G	69.33	D	62.88
May 2007	799,500.00	G	177.04	D	160.57
June 2007	507,000.00	G	112.27	D	101.82
July 2007	1,579,500.00	G	324.72	D	294.51
September 2007	669,500.00	G	120.33	D	109.14
October 2007	117,000.00	G	21.03	D	19.07
December 2007	1,241,500.00	G	244.34	D	221.61
YEARLY TOTAL	9,743,500.00	G	1,782.42	D	1,616.61

$$\frac{9,743,500 \text{ gal/yr}}{365 \text{ days/yr}} = 26,695 \text{ gpd}$$

0.0267
mgd
sludge to
disposal
flow.



Please note that your permit may contain additional parameters to be analyzed than those required to be summarized on this form.

Permit Number: WQ0001234
Facility Name: TYPICALVILLE, NC
NPDES# : NC0012345
or WQ# (residual only)
WWTP Name: TOWN OF TYPICALVILLE WWTP

Laboratory
A&L EASTERN LABORATORIES, INC.

PARAMETERS (mg/kg dry weight)	JUN 27 2008				JUN 27 2008			
	LAG1	04/02/07	LAG1	06/05/07	LAG1	08/01/07	LAG1	10/01/07
Arsenic	6.3	5.8	5.5	7.3*	6.9	6.4	<5	<5
Cadmium	1	2	2	6.5*	<5	<0.4	0.8*	0.8*
Mercury	<0.4	0.5	<0.4	<0.4	<0.4	<0.4	48	48
Chromium	38	65	54	54	51	51	1490*	1490*
Copper	1010	1070	1330	1140	1350	1350	33	33
Lead	19	38	40*	37	34	34	5	5
Molybdenum	<5	8*	<5	8*	<5	<5	25	26
Nickel	27	44*	41	29	29	25	<1	<1
Selenium	2.4	2.3	1.7	5*	3.8	3.8	383	383
Zinc	374	407	434*	415	400	400		
Total Phosphorus	16600	18100	19000	15700	13400	13400	15000	15000
TKN	58200	64400	54000	55200	54200	54200	52700	52700
Ammonia-Nitrogen	1100	2400	3200	5300	1500	1500	2700	2700
Nitrate and Nitrite	80	<1	<1	58	<1	34		

Average =

4.4%

"I certify, under penalty of law, that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."


X (SIGNATURE OF PREPARER)

Date 2-12-08

Please note that your permit may contain additional parameters to be analyzed than those required to be summarized on this form.

Permit Number: WQ00001234
Facility Name: TYPICALVILLE, NC
NPDES#: NC0012345
or WQ# (residual only)
WWTP Name: TOWN OF TYPICALVILLE WWTP

Laboratory
A&L EASTERN LABORATORIES, INC.

Residuals Analysis Data		LAG1	LAG1	LAG1	LAG1	LAG1
Product Type	02/09/07	04/02/07	06/05/07	08/01/07	10/01/07	12/03/07
Date Sampled (grab) or						
Date Composited	2.75	5.31	4.93	4.31	4.72	4.38
Percent Solids						
PARAMETERS (mg/kg dry weight)		34400	33800	34700	27900	33800
Aluminum	25000	8000	10200	10800	10700	10000
Calcium	7700	3900	4900	3400	2500	2800
Magnesium	3800	7.20	6.90	6.80	7.10	7.16
pH						
Potassium	4500	4200	5000	4000	2900	3300
Sodium	27700	13700	21500	17000	14900	14100

"I certify, under penalty of law, that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."


X (SIGNATURE OF PREPARER)

NR - Data Not Reported or Data Not Required

Date 2-12-08

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Headworks Addendum for Sludge Loadings (HASL) worksheet

POTW Name =>	Typicalville	Spreadsheet Instructions:									
POTW NPDES # =>	NC0012345	1) Data entered only in Heavy Bordered cells. Rest of worksheet is protected, password is "2".									
POTW Sludge Permit # =>	WQ0001234	2) This spreadsheet changes based on the class of sludge generated inputted in cell C13 of the HWA spreadsheet. The title and the limits in column G of this spreadsheet are updated automatically.									
Date =>	1/7/2009	3) Formulas in Comprehensive Guidance HWA Chapter, Section K.									
POTW Average Flow =>	7.17 mgd										
Avg. sludge flow to Disposal =>	0.0267 mgd										
Average % Solids to Disposal =>	4.40 %										
Sludge Site Area permitted =>	1164.9 acres										
MAHL_sv = $(Q_{\text{potw}} * C_{\text{inf}} * 8.34) / (\%_{\text{adj}})$ lbs/day											
Q_{potw} = Average POTW flow (mgd)											
C_{inf} = Average influent concentration (mgd)											
$\%_{\text{adj}}$ = Per percentage of Sludge Limit as decimal (example: enter 117% as 1.17)											
8.34 = Conversion Factor											
Calculate MAHL_sv based on % of Monthly Average Concentration Limits to Protect Sludge Quality (insert these values into HWAs)											
Enter Average POTW Influent Conc. mg/l											
Enter actual CUMULATIVE LOADING data from most recent Sludge Report for the most heavily loaded field ¹ lbs/acre											
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Cadmium											
Chromium											
Copper											
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Cadmium											
Chromium											
Copper</											

<input type="checkbox"/> IF Greater than 80% Flag POTW MUST SUBMIT LAND APP & METALS MANAGEMENT PLAN	<input type="checkbox"/> If Greater than 80% of the concentration limit POTW MUST SUBMIT METALS MANAGEMENT PLAN
n/a	n/a

¹The most heavily loaded field is determined for each pollutant individually, and is the field that contains the highest amount (bs/acre) of that pollutant.

